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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/523,579 | 01/28/2005 | Yutaka Miyamoto | 2114.P0012US | 1367 |
| 23474 7590 03/26/2007 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631 | | | EXAMINER KERNS, KEVIN P | |
| | | | ART UNIT 1725 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 03/26/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/523,579

Applicant(s)

MIYAMOTO ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 23 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 23 of copending Application No. 10/486,273 (also see equivalent US 2005/0011864). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims include at least the following common features: a butt welding apparatus for butt welding end faces of at least one (two) of the plate members by electric resistance heating, such that the apparatus comprises means for supporting the at least one (two) of the plate members such that the end faces abut each other and form a butt portion; a pair of electrode members disposed opposite to one another, with the electrode

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members further comprising first and second electrode members, such that the first electrode member includes an outer surface having a press (first convex) portion and a non-press portion (stepped and/or tapered surface at a distance from contact with the workpiece); and means for causing relative movement of the first and second electrode members that contact at least one (two) of the plate members to deform, melt, and join an end face of one of the plate members. One of ordinary skill in the art would have recognized that an electrode member having a stepped, tapered, and/or convex outer surface would be similar in shape to the outer surface having a press portion and a non-press portion in claim 23 of copending Application No. 10/486,273, with this shape of the electrode member being advantageous for applying increased force over a smaller contacting area to cause workpiece deformation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 23-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 60-6273 in view of JP 8-39261 (complete translations of both documents provided in previous Office Actions).

JP 60-6273 discloses an apparatus and method for production of steel strip from joining hot rolled coils having different sheet gauges via electric resistance heat butt welding, in which the apparatus and method include providing coil members (1,2) having different cross-sections in a linearly arranged, supported butted relationship prior to butt welding; arranging a pair of oppositely arranged spot block electrode press members 3 (which would be held in respective electrically insulated press dies) adjacent the portion of the coil members (1,2) to be butt welded, such that each of the electrode press portions have two respective convex portions that gradually retreat from a flat intermediate portion of the electrode outer surfaces to be approximately parallel to the members; and means for causing relative movement of the electrodes 3 (force-applying arrows that show a pressing direction of electrode press members 3 to provide a press load) toward each other, such that an end face (Figure 3) of the thicker cross-section coil (2-2) deforms toward the other end face of the thinner cross-section coil (1-2) to

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form a weld bead in the weld zone 4, thus providing a butt welded steel strip (abstract; and Figures 1-3). JP 60-6273 does not specifically disclose the actual supporting means and that the members to be butt-welded are plate members (independent claims 24 and 43), that the two convex portions are connected to one another (claims 24 and 27), and that the butt portion extends non-linearly (claim 32).

However, JP 8-39261 discloses a welding method and apparatus that includes a single pair of roller electrode members (33,34) that include connected convex press portions upon butted plate members (11,12) having oblique-shaped (non-linear), butted end portions (while being offset from the butted portion of the plate members) to be held by supporting means in the form of clamps (31,32) (see Figures 3-7, 12, 14, and 17), with the single pair of electrode members also functioning as press portions, which are advantageous for providing welding of oblique-shaped end portions with short welding time and not limiting the type of material and thickness of the plate members (abstract; paragraphs [0006]-[0032] of Japanese translation; and Figures 1-7, 12, 14, and 17).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the apparatus and method for production of steel strip from joining hot rolled coils having different sheet gauges (different cross-sections) via electric resistance heat butt welding, as disclosed by JP 60-6273, by using the supporting means on plate members, the connected convex press portions formed in a single pair of electrode members, and the non-linearly extending butt portion, as taught by JP 8-39261, in order to weld oblique-shaped end portions with short welding

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time and not limiting the type of material and thickness of the plates (JP 8-39261; abstract).

Response to Arguments

6. The examiner acknowledges the applicants' response received by the USPTO on February 26, 2007. Claims 23-44 remain under consideration in the application.

7. Applicants' arguments filed February 26, 2007 have been fully considered but they are not persuasive.

With regard to the remarks/arguments on pages 2-4 of the response, the applicants have provided arguments addressing both the obviousness-type double patenting rejection of claim 23 of the present application in view of claim 23 of copending application 10/486,273 (US 2005/0011864), which was newly provided in the previous Office Action, in addition to the 35 USC 103(a) rejections of claims 23-44 (JP 60-6273 in view of JP 8-39261). First, the examiner respectfully disagrees with the applicants' remarks (on page 2 to the top of page 3 of the remarks/arguments) regarding the double patenting rejections. Both 10/486,273 and the present application include substantially all features of their respective apparatus claims 23. It is noted that these apparatus claims (also including limitations regarding the butt portions and end faces of plate members to be welded, which lack patentable weight in apparatus claims, but not in the method claims) only include the obvious minor differences in shape at the electrode outer surface. In other words, the stepped, tapered, and/or convex outer

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surfaces would be similar in shape (and subsets of) the press and non-press portions of claim 23 in the copending application. As a result, the obviousness-type double patenting rejection remains as substantially set forth in above section 2. Second, the applicants' arguments (on pages 3 and 4 of the remarks) continue to be that neither JP 60-6273 nor JP 8-39261 (when considering the previously provided complete translations of these Japanese documents) discloses and/or suggests that electrode members are used for both pressing and welding abutted end portions by electric resistance heating (see paragraph in the middle of page 3). The examiner continues to respectfully disagree with this argument, as press machine 3 is heated during a pressing operation (even when taken in view of the "heat means to heat the press portion of coil members exist aside from the press machine 3"), and thus serves as a pair of oppositely arranged resistance heating electrodes (see last paragraph of page 5 of JP 60-6273 translation; and Figures 2 and 3). Furthermore, Figure 2 shows a weld bead in the weld zone 4 directly beneath the press machine 3, and thus the pressing and heating (resulting in welding) of abutted end portions is achieved. In addressing the arguments in the paragraph bridging pages 3 and 4, the examiner agrees that JP 60-6273 fails to specifically disclose sheet or plate members and the supporting means. However, JP 8-39261 has been provided to show supporting clamps (31,32), in addition to convex electrode members (33,34) that press upon opposite sides of butted plates (11,12) to result in butt-welding of the oblique-shaped end portions. Although the applicants state that "The present invention is characterized that the electrode rollers are not divided...", it is noted that this feature is not specifically claimed in independent

claims 23 and 43. Regarding the paragraph in the middle of page 4, the “means for causing relative movement of the electrode members...” is clearly shown (with pressing arrows) in Figures 2 and 3 of JP 60-6273, and is old in the art for resistance welding machines. These electrodes contact (and thus apply pressure to) the end portions, and whether or not deformation takes place, this contact by the electrodes provides a “press portion” during a welding process. At the bottom of page 4, the applicants state that method claim 43 includes a “positioning” step, which is allegedly not taught in the references. However, JP 60-6273 discloses that the electrode members are “positioned” over the butt portion of the workpieces (see Figures 2 and 3 of JP 60-6273). In conclusion, both references disclose and/or suggest the features of independent claims 23 and 43, and all claims of record remain rejected under 35 USC 103(a) as set forth in above section 5.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 3/23/07*
Primary Examiner
Art Unit 1725

KPK
kpk

March 23, 2007